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UNITED STATES DEPARTMENT OF AGRICULTURE  
AGRICULTURAL ADJUSTMENT ADMINISTRATION  
NORTH CENTRAL DIVISION

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PROCEDURE FOR HANDLING WORK IN THE  
STATE OFFICE IN CONNECTION WITH THE 1938  
AERIAL MAPPING PROGRAM.

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UNITED STATES DEPARTMENT OF AGRICULTURE  
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PART I - GENERAL

It will be the function of the aerial mapping section in the State office, under the direction of the State Committee, to handle the work in connection with the aerial photographic survey of the North Central Region and to coordinate such survey with the checking of performance and other phases of the Agricultural Adjustment Administration Program. This procedure outlines some of the technical requirements of this work and contains instructions covering the preparation of "AP" forms which will be used in connection with the aerial mapping program. Further procedure relative to the work of the aerial mapping section will be covered in supplements.

This outline is intended to cover the normal order of flying an area, the work incidental to, and including, ordering, checking, and preparing enlargements for use in determining performance, and has been prepared for the instruction and guidance of those working on the aerial photographic survey.

In order to establish uniform use throughout the North Central Region of the terms "length" and "width" as applied to aerial negatives, contact prints, and enlargements, the length shall be regarded as that distance measured parallel to the line of flight, and the width as that distance measured perpendicular to the line of flight. For example, the 7-inch dimension of a 7" x 9" aerial negative is the length, and the 9-inch dimension of a 7" x 9" aerial negative is the width. The same rule will govern the use of the terms "length" and "width" of a 9" x 9" negative.

The overlap along the line of flight will be known as longitudinal overlap, and the overlap at the right angles to the line of flight will be known as lateral overlap.

Particular care shall be exercised by the State committee to insure that all materials delivered and the evidenced technique of performance on a contract with an aerial survey company are such that the photographic work in the air and in the laboratory is of sufficiently high standard to assure full and complete compliance with the requirements of the specifications.

The State Committee should instruct and frequently check the work of the aerial mapping section. The scale of all contact prints, the enlargement ratios, and the orders for enlargements should be rigidly checked.



The Specifications as Approved by the Secretary of the Treasury, May 27, 1937, with deviations authorized by the Director of Procurement for the Department of Agriculture, will be used in connection with the 1938 aerial photographic survey. The attention of the State Committee is directed to the stipulations set forth in the Invitation, Bid, and Acceptance, and the Continuation Schedule thereof. These stipulations are a part of the contract with the aerial survey company and every effort shall be made to insure thorough compliance with them as well as with the specifications.

## PART II - MAPS

The following maps shall be obtained for all counties to be flown during 1938:

(1) Three maps of each county to be flown shall be furnished to the contractor for use as flight maps. Such maps should be approximately 1/4" to the mile. If maps at a slightly larger scale are available, they should be obtained. The amount of detail on a map will in some cases govern the advisability for its use as a flight map. After receipt of notification as to the successful bidder for the item in a State, a representative of the State Committee, the contractor, and the assistant supervising engineer should lay out flight lines on such maps. Approval should be secured from the North Central Division for flight line direction other than north and south. Flight lines flown north and south shall be numbered from the west, beginning with number 1. Flight lines flown east and west shall be numbered from the north, beginning with number 1. Where feasible the flight lines should start one mile in from the county boundary in order to provide economical handling of the enlargements within a township. In addition, particular attention should be given to the available control; the ease with which additional control may be secured; the regularity of section lines in respect to coverage, and the ease with which they may be flown; and the requirement that there be 25 percent lateral overlap beyond boundaries. Each flight line shall be so photographed that the principal points of the first two, and the last two, negatives thereof will fall outside the boundaries of the specific area. One map of each county showing the proposed flight lines should be forwarded to the North Central Division for approval.

(2) Three maps of approximately 1" to the mile, for each county to be flown, for use as county index maps.

(3) Three or more maps (depending upon the size of the county and the number of ground control crews) of 1/2" to the mile or larger, for use in the county and later on in the aerial mapping section of the State office.



Maps showing streams, roads, railroads, section boundaries, section numbers, ranges and tiers, township boundaries, and township names are desired. Such maps should be printed on a good grade of paper. A complete set of all available topographic sheets for the area to be flown should also be secured. Authorization for the purchase of topographic sheets, etc., should be secured from the North Central Division, Washington, D. C., prior to any agreements with local agencies. A study of the relief of an area as represented by contours shown on the topographic sheets will prove valuable when determining contact print scales.

If it develops that the cost of obtaining the necessary number of maps is prohibitive, one map of each type may be secured and duplicated.

### PART III - INSEPTION OF CONTACT PRINTS AND USE OF FORM AP-3

When the contact prints are received from the contractor and/or the Aerial Photographic Laboratory, United States Department of Agriculture, Washington, D. C., they shall be laid out in flight lines, and, with the aid of the AP-6 and rough index map, checked for completeness of shipment and specification of requirements. At this time appropriate entries shall be made on form AP-3 concerning each contact print received. All markings on the contact prints should be made for the purpose of assisting in identification. Excessive markings are a hindrance. The markings should be placed on each contact print selected for county coverage in such a manner as to locate accurately sections, county boundaries, towns, streams, lakes, principal roads, railroads, and tiers and ranges. The information placed on the contact prints will be transferred to the enlargements before delivery to the county office. It is important to remember that since farm reporters and planimeter operators will use these enlargements, all markings for their information should be distinct.

At certain times it will be more advantageous to mark properly only the contact prints that will be needed for control purposes. At a later date the remainder of the contact prints shall be properly marked.

The following procedure shall be used in preparing form AP-3:

Enter in the appropriate spaces the name of the State; the identification number and USDA number; the sheet number; the date on which, and the name of the agency from which, the contact prints were received; the name of the county covered; and the number and size of the contact prints received. The first identification number for a



USDA contract shall be number 1, and consecutive numbers shall be assigned to each shipment of contact prints received thereafter. In the event contact prints for more than one county are received in a shipment, they will not be listed under the same identification number. Contact prints for one county received on different dates shall not be listed under the same identification number.

When contact prints are received for reflights or reprints, strike out the word not applicable and enter the date on which they are received, the sheet numbers, and the identification number of the original recordation and inspection, as well as the data in the preceding paragraph.

Enter in the columns provided therefor, the designation symbol, the roll number, the serial numbers of the contact prints, and the flight line numbers. If possible, the flight line numbers should be listed in numerical sequence. A space should be left in the listing in order to designate the beginning and the end of a flight line.

Under the heading "Remarks" give a concise description of each contact print relative to photographic quality, faulty flying, and any failure to meet the standards of the Specifications. The area or areas of any contact print found to be defective should be properly described. This may be accomplished by placing over the print a piece of celluloid having ruled lines that divide the area into four equal quadrants. The quadrant containing the contact print number will be number 1, the date will be in quadrant 2. Quadrant 3 will be below number 2, and quadrant 4 will be directly below quadrant number 1. In other words, the quadrant numbering will be in a counterclockwise direction from the print serial number. Entries under "Remarks" should read "4 Brown Stain", "2 Scratch", etc.

Contact prints and enlargements shall possess all qualities conducive to rapid and accurate interpretation. If erroneous information is obtained due to poor photographic technique, an important function of the aerial survey will be lost.

If a contact print meets all requirements, the term "O.K." should be entered under "Remarks" opposite the contact print and flight line number. The lateral and longitudinal overlap shall be entered for each contact print. The following items should be given careful consideration:

- (1) The specified lateral and longitudinal overlap.
- (2) Photographic quality (printing, developing, fixing, washing, and finishing).



- (3) The degree of tilt and crab. (The degree will not be stated unless it is accurately known.) The words "slightly tilted" should designate tilt from  $0^{\circ}$  to  $2^{\circ}$ ; "tilted", from  $2^{\circ}$  to  $5^{\circ}$ ; and "excessively tilted", from  $5^{\circ}$  upwards.

The words "slightly crabbed" should designate crab from  $0^{\circ}$  to  $5^{\circ}$ ; "crabbed", from  $5^{\circ}$  to  $10^{\circ}$ ; and "excessively crabbed" from  $10^{\circ}$  upwards.

- (4) Presence of elongated shadows, flooded areas, snow, clouds, and cloud shadows, blurred detail, static marks, or any other defects not permitted by the specifications.

If a defect may be rectified by the operation of reprinting, the notation "Reprint", together with the reason for reprinting, should be entered under "Remarks" opposite the contact print number. Upon delivery of the contact prints resulting from reprinting, they shall receive the same attention as contact prints included in an original shipment. This should continue until satisfactory contact prints giving complete coverage are on file for each county flown.

If a defect cannot be corrected by reprinting, a reflight will be ordered according to instructions outlined herein for the use of Form AP-4. When a reflight is ordered an "X" will be placed on the AP-3, in the column provided therefor, opposite the contact print numbers at fault. The percent of overlap beyond boundaries, between flight lines, and any other useful information should be entered under "Remarks", opposite the contact print numbers.

Form AP-3 shall be prepared in quadruplicate immediately after inspection of contact prints received from the contractor. The original and the first copy shall be forwarded to the North Central Division, Washington, D. C., one copy shall be forwarded to the contractor from whom the prints were received, and one copy shall be retained in the State office. The required number of copies of AP-3 will be forwarded to the North Central Division, Agricultural Adjustment Administration, Washington, D. C., upon completion of all original flying in a county. In the event of a reflight or order for reprints the contact prints resulting therefrom shall be inspected and the required AP-3's filled out and mailed.

Form AP-3 shall be prepared in quadruplicate for all contact prints received from the Aerial Photographic Laboratory, Washington, D. C. The original and first two copies shall be forwarded to the North Central Division, Washington, D. C., and one copy shall be retained in the State office. The first and last pages of the original and of the three copies of AP-3 shall be in all cases signed by a member of the State committee.



## PART IV - COMMON PHOTOGRAPHIC DEFECTS

The following is a list of common photographic defects. The underscored terminology describing photographic defects will be employed when making entries under "Remarks".

It should be remembered that acceptable contact prints may be made from negatives that will not yield satisfactory enlargements. Defects not readily apparent on contact prints often are very noticeable on enlargements. In some cases defects will be similar but may have different causes.

1. Abrasion Marks or Streaks.-- Appearance: White lines running across the face of the print. Cause: (1) Friction on the emulsion of the sensitized paper due to improper storage or handling. (2) Incorrect development of the print or negative. (3) Rough or careless handling of the negatives. (4) Dust particles scratching the film during winding.

2. Air Bells.--Appearance: Circular white or discolored areas. Cause: Bubbles of air forming on the surface of the print during development or fixation, preventing the developer or fixing bath from reaching the surface of the print covered by them. White spots result if the bubbles are formed in the developer, and discolored areas are produced in the fixing bath. Air bells on the negatives will produce black spots or areas on the prints.

3. Bad Definition in Spots or Blurred Spots.--Cause: (1) Negative and paper were not in perfect contact. (2) The aerial film may have had traces of moisture caused by condensation. (3) On enlargements the blur may have resulted from buckled negatives or projection paper. (4) Traces of oil on the lens of the aerial or projection camera or on the pressure plate.

4. Black Spots.--Cause: (1) Holes in the negative. (2) Black spots or black lines on a contact print may be due to an absence of emulsion on the negative. (3) An obstruction in front of the aerial camera lens. (4) Particles of foreign matter on the focal plane glass of the aerial camera.

5. Blisters.--Cause: (1) Blisters are produced when water is allowed to fall directly from the faucet to the surface of the print, thus weakening and straining the emulsion and forming a pocket of water between the emulsion and the paper support. (2) If a print is roughly handled during the process of washing, it becomes cracked and water may seep into these cracks or weak places in the emulsion and cause blisters. (3) A lack of acid hardener will allow the gelatin emulsion to become so soft that it is easily separated from its paper support. (4) If there is too much acid hardener, it tends to harden the emulsion in



some spots more quickly than in others. (5) Too great a difference between the temperature of the developer and rinse water and fixing bath. The paper support and emulsion coating have not exactly the same coefficient of expansion, and a sudden change in temperature is likely to separate the emulsion from the paper.

6. Brown Spots.--Cause: (1) Chemical dust, loose particles of chemicals flying around in the laboratory and settling on the emulsion side of the paper. (2) Rusty trays or tanks. (3) Exhausted or oxidized developer. (4) Stains from tobacco. (5) High mineral content of the wash water.

7. Fading Tendency.--Cause: (1) Incomplete fixation, the light affecting the silver salt which has not been removed from the emulsion on account of incomplete fixation. (2) Insufficient washing, the "hypo" remaining in the emulsion gradually attacking the metallic silver image causing it to fade. This action is hastened in a damp climate.

8. Flatness.--Cause: Use of wrong grade of paper for the particular negative. The print shows that the highlights were correctly exposed, but the shadows are gray and not a rich black. If the shadows are properly printed, the highlights are overexposed and show considerable density.

9. Fog.--Cause: (1) Unsafe safe light. (2) Light-struck paper or old paper. (3) Forced development, resulting in a reduction of the silver salt not affected by the light during exposure. (4) Impure chemicals in the developer or an improperly prepared developer, causing the action of the developer to be so rapid as to produce fog, or to be so slow as to cause fog from prolonged development. The following classifications will be used in regard to fog: light fog, caused from light striking the paper or the film; chemical fog, caused by chemicals.

10. Finger Marks.--Cause: (1) Wet or greasy fingers. (2) Hypo on the fingers, the hypo reducing the silver salt in the emulsion so that when the paper is developed a white fingerprint will appear.

11. Freaks.--Cause: Uneven development or a weak developer produces freaks. Freaks frequently occur during warm weather either when the developer has not been stirred before using, or when the developer is old. The result is an uneven development over the surface of the print and the presence of peculiar white or black streaks. They occur in warm weather when the humidity is great. They may occur at any other time and are avoided usually by taking greater care in the preparation of the developer and using greater care in storage of the paper.

12. Frilling.--Cause: (1) Careless handling. (2) Too much acid hardener in the fixing bath. (3) Solutions are too warm, or if the



paper is handled carelessly while in a solution, the emulsion will become loosened at the edges of the sheet and will curl back, the effect being termed "frilling".

13. Underexposure and Forced Development.--This is recognized by a grayish or granular appearance on the print edges. Cause: (1) Old paper. (2) Moisture. If the paper is packed together in block form, moisture will first affect the edges of the sheets before reaching their centers. (3) Chemical fumes. Owing to the method of packing, chemical fumes, like moisture, first attack the edges of the sheets of paper. (4) Light fog. (5) Insufficient amount of potassium bromide in the developer.

14. Grayish or Lead-Colored Whites Throughout the Print.--Cause: This is a more aggravated form of the defect described in the preceding paragraph, since in this case the whole surface of the sheet instead of the edges only is affected.

15. Greenish-Brown Tones.--Cause: (1) Exhausted developer. (2) Overexposure. (3) An excessive amount of potassium bromide in the developer. (4) Cold developer or too great a difference in temperature between the developer and the wash water.

16. Green Contrasty Prints.--Cause: (1) Overexposure underdevelopment. With underdevelopment what should be black in the print will never become fully black but will reach only that greenish appearance preceding the formation of black. Continuance of development would have produced a black tone in the print, but the print would have become too dense on account of the excessive amount of exposure given. Only correct exposure and correct development will give satisfactory results. (2) Too much bromide in the developer. An insufficient amount of carbonate, a cold or weak developer, or anything that tends to retard the action of the developer will produce a print like that resulting from overexposure and underdevelopment.

17. Muddy Tones.--Cause: (1) Overexposure and overdevelopment, resulting in a muddy image, buried in an excessive amount of density. (2) Insufficient amount of potassium bromide in the developer, resulting in a muddy tone from too rapid development. (3) Dampness or exposure of a paper to chemical fumes.

18. Prints Too Black.--Cause: (1) Overexposure. (2) Overdevelopment. (3) Overexposure and overdevelopment. (4) Too little bromide in the developer, causing too rapid development. (5) Wrong grade of paper for the degree of contrast present in the negative. (6) Thin negative.



19. Prints Too Light.---Cause: (1) Underexposure, underdevelopment, or both. (2) Wrong grade of paper. (3) Dense negative.

20. Purple Discoloration.---Cause: (1) Improper fixation. (2) Failure to move the prints during the first few moments in the fixing bath. (3) Failure to immerse the prints in the fixing bath. (4) Allowing prints to float, emulsion side up, on top of the fixing bath. (5) The presence of acid and iron in the wash water.

21. Uneven Development.---Cause: Failure to immerse the entire coated surface of the print quickly enough, thereby allowing one portion of the print to receive a greater amount of development than another and consequently to be much darker in tone.

22. Uneven Fixing.---Appearance: Discolored areas on the surface of the print. Cause: (1) Failure to move prints frequently enough in the fixing bath, thus allowing the same layer of the fixing bath to remain too long over the surface of the print and permitting that portion of the bath to become weakened. (2) Prints sticking together, thus preventing the fixing bath from reaching those portions of the print that are in contact with each other. (3) Air bells forming on the surface of the print, the air bells preventing the fixing bath from reaching the portions of the print covered by them.

23. Uneven Printing.---Cause: Improper dodging of the negative during the printing process. This is recognized by the variations of tone and may be rectified by reprinting. Uneven printing may be traced to inexperience or careless laboratory technique.

24. Weak Prints.---Cause: (1) Underexposure. If the print has been underexposed, it will never attain its proper density without incurring some other development fault from forced development, and the print will have a weak and washed out appearance. (2) Bleaching. Prints, although properly exposed and developed, will bleach if allowed to remain in the fixing bath too long. (3) A strong fixing bath will attack and partially reduce the metallic silver, especially that representing the finer detail of the print. The delicate gradation of the print, as well as its snap and brilliancy, are therefore destroyed by prolonged fixation. (4) The operator's failure to transfer the prints often enough from the fixing bath to the final washing.

25. White Deposit on Surface of Print.---Cause: The fixing bath is exhausted, incorrectly mixed, or contains impure chemicals. A white precipitation settles on the surface of the print and will remain unless swabbed off when washing the print.

26. White Spots on Prints.---Cause: (1) Dirt on negative. Particles of foreign matter on the negative will prevent the light from affecting that part of the paper. Thus a latent image will not be



created immediately under such a particle, and a clear white spot in that part of the print will result upon development. (2) Dirt or dust on the plate glass top of the printer. (3) Air bells. Should an air bell form on the surface of the print during development, no development will take place under the bell, and, since the silver salt will be washed out during fixation, a white spot will remain in its place.

27. Yellow Stains.--Cause: (1) The fixing bath. If the fixing bath is weak, the action of the developer will not be entirely stopped, and yellow stains will appear due to the continued action of the developer. (2) Development. If the developer is weak or the print is forced in development, yellow oxidation stains will frequently be produced. (3) Failure to rinse the print. If the prints are not rinsed after development, but are transferred directly from the developer to the fixing bath, yellow stains will result from the continued action of the developer during the first few seconds the print is in the fixing bath. (4) Uncleanliness. If the paper in development is handled with unclean fingers, or in an unclean tray, yellow stains will occur due to the impurities present. (5) Hypo carried into the developer. If hypo is carried into the developer, the developer is weakened or retarded and yellow stains similar to those produced by prolonged or forced development will appear. Hypo will also degrade the white of the prints and will affect the pure black and white results obtainable by a pure developer. (6) Insufficient washing. If prints are not sufficiently washed, yellow stains are likely to appear due to a continuation of the action produced by the chemicals which have been left in the emulsion from insufficient washing. (7) Light. If a normally developed print is exposed to light before thorough fixation has resulted, a continued or partial reduction of the silver salt present will take place. (8) Sea air. Prolonged exposure of a print in humid, salty atmosphere produced by the ocean will cause yellow stains.

The following facts should be memorized:

- (1) If the print is too light, it is underexposed or underdeveloped.
- (2) If the print is too dark, it is overexposed or overdeveloped.
- (3) If the print is flat and lacks contrast, development was insufficient or the paper used was too soft.

PART V -- INFORMATION PERTAINING TO COMPLETION OF AERIAL  
PHOTOGRAPHY FOR A COUNTY SUBPROJECT AND TO  
INSPECTION OF CONTACT PRINTS AND INDEX MAPS.

The memorandum covering "Completion of Flying and Inspection of Contact Prints and Index Maps" for counties photographed under USDA



10099 shall be prepared as outlined in NCR-State 104, Supplement No. 3, issued August 20, 1937.

The following information in memorandum form shall be forwarded by air mail to the North Central Division immediately after all contact prints and rough index maps for a county subproject under USDA 1914 (or 3100 Wisconsin) have been inspected and found worthy of recommendation for acceptance:

"MEMORANDUM FOR MR. CLAUDE R. WICKARD,  
Director,  
North Central Division.

Re: Completion of Flying and Inspection  
of Contact Prints for \_\_\_\_\_  
County subproject, \_\_\_\_\_

We are transmitting herewith information pertaining to the completion of aerial photography for \_\_\_\_\_, flown by \_\_\_\_\_, USDA 1914 (or USDA 3100 Wisconsin).

- (1) Date original flying completed (includes reflights made at the discretion of the contractor) \_\_\_\_\_, 1938.
- (2) Date(s) of receipt of the shipment(s) of contact prints and rough index maps \_\_\_\_\_, 1938.
- (3) Date inspection of contact prints and rough index maps was completed \_\_\_\_\_, 1938.

In the event of a reflight(s) the following additional information will be needed:

- (1) Date(s) reflight(s) ordered \_\_\_\_\_, 1938.
- (2) Date(s) reflight(s) completed \_\_\_\_\_, 1938.
- (3) Date(s) of receipt of contact prints and rough index map(s) resulting from a re-flight(s) \_\_\_\_\_, 1938.
- (4) Date inspection of contact prints and rough index maps resulting from the last reflight was completed, \_\_\_\_\_, 1938.



Contact prints and all rough index maps covering this county have been inspected by our office and found to conform to the Standard Specifications for Aerial Photography for General Map Work and Land Studies, with Deviations Authorized by the Director of Procurement for the Department of Agriculture, February 18, 1938, and the Stipulations set forth in the Continuation Schedule, Invitation, Bid and Acceptance."

This memorandum shall be prepared in quadruplicate immediately after contact prints and rough index maps for a county have been inspected and are found to be satisfactory. The original and first two copies shall be forwarded to Mr. Claude R. Wickard, Director of the North Central Division, and one copy shall be retained in the State office. Any other pertinent facts concerning the dates of completion and the quality of material submitted should also be set forth in this memorandum.

PART VI - INFORMATION PERTAINING TO INSPECTION OF PHOTO INDEX  
MAPS FOR A COUNTY SUBPROJECT.

The following information in memorandum form shall be forwarded by air mail to the North Central Division immediately after all photo index maps for a county subproject under USDA 1914 (or 3100 Wisconsin) have been inspected and found worthy of recommendation for acceptance:

"MEMORANDUM FOR MR. CLAUDE R. WICKARD,  
Director,  
North Central Division.

Re: The completion and Inspection of  
Photo Index Maps for \_\_\_\_\_  
County Subproject \_\_\_\_\_

We are transmitting herewith information pertaining to the completion and inspection of photo index maps for \_\_\_\_\_ County subproject, State of \_\_\_\_\_, flown by \_\_\_\_\_, USDA 1914 (or USDA 3100 Wisconsin).

(1) Date of receipt of photo index map(s)  
\_\_\_\_\_, 1938.

(2) Date inspection of photo index map(s)  
was completed \_\_\_\_\_, 1938.

Photo index maps covering this county have been inspected by our office and found to conform to the Standard Specifications for Aerial Photography for General Map Work



and Land Studies, with Deviations Authorized by the Director of Procurement for the Department of Agriculture, February 18, 1938, and the Stipulations set forth in the Continuation Schedule, Invitation, Bid, and Acceptance."

This memorandum shall be prepared in quadruplicate immediately after photo index maps for a county have been inspected and are found to be satisfactory. The original and first two copies shall be forwarded to Mr. Claude R. Wickard, Director of the North Central Division, and one copy shall be retained in the State office. Any other pertinent facts concerning dates of completion and the quality of materials submitted shall also be set forth in this memorandum.

Public Vouchers for Purchases, and Services other than Personal, will be prepared by the contractors upon the completion of aerial photography for county subprojects and forwarded to the North Central Division, Washington, D. C. Since vouchers cannot be forwarded for payment until all materials resulting from aerial photography have been accepted, the contact prints and index maps shall be inspected as soon as possible after they have been received in the State office.

We have been informed by the Administrative Audit Section that if sufficient delay occurs in our office or in any field office to prevent the receipt of the discount provided by the contractor, a full explanation of the necessity for such delay will be required. If such delay cannot be satisfactorily explained, it may be necessary to deduct the sum of the resultant loss from any amounts due the officer responsible for such delay.

Inspection of materials submitted by the contractor shall be given preference over other work in the aerial mapping section, and forms giving the result of these inspections shall be mailed promptly in order that the discounts offered may be secured.

#### PART VII - USE OF FORM AP-4

All orders for reprints shall be forwarded to the North Central Division, Washington, D. C. Form AP-4 will be used when ordering reprints. Strike out the word "Reflights" appearing in the heading when typing the request. Enter the name and address of the contractor, the name of the county and the State, the sheet number of the request, the contact print recording and inspection identification number, the date contact prints were received at the State office, and the negative size. Strike out all of item 2. Enter in the blank space the designating symbol, the roll number and negative number for each contact print for which a reprint is desired. This request shall be prepared in quadruplicate. The original and first two copies shall be forwarded to the North Central Division, Washington, D. C. One copy shall be retained in the State office.



Orders for reflights shall be made on Form AP-4, "Aerial Photographic Survey Request for Reflights". Enter in the spaces provided therefor the name and address of the contractor, the name of the county and the State, the sheet number of the request, the contact print recording and inspection identification number, the sheet number(s) (state whether 1 of 3, 1 of 8, 2 of 9, etc.), the date contact prints were received in the State office, and the negative size. Strike out all of item 1. Under item 2, "We find it necessary to request reflights for the following territory", shall be given a description of the territory covered by the flight line(s) to be reflight. This description should contain enough information to enable the pilot and the photographer to readily locate the area to be reflight. If possible, such description should contain the name of the county, the township(s), the tier and range number(s), the section numbers, the flight line number(s) or letter(s), the negative numbers, etc., of the area to be reflight. Reflights should not be made between existing flight lines.

Form AP-4 for reflights shall be prepared in quadruplicate. The original and first two copies shall be forwarded to the North Central Division, Washington, D. C., and one copy shall be retained in the State office. In ordering reflights, form AP-4 shall be prepared immediately after the completion of inspection of contact prints and the original and all copies of form AP-4 shall be dated and initialed by a member of the State committee.

#### PART VIII - GROUND CONTROL

The term Ground Control as used in the aerial photographic survey for the North Central Region refers to the horizontal measured distance between any two or more stations on the ground which can be identified on a contact print. These measurements are used for determining the scale of contact prints. The scale of the contact print will govern the projection ratio. The scale of the enlargements will be 1" equals 660 feet, unless authorized otherwise by the North Central Division, Agricultural Adjustment Administration, Washington, D. C.

Ground control in comparatively level or rolling country should be secured on contact prints in such a manner as to give direct ground control measurements on approximately every fifth contact print. Measurements shall be secured by steel tape or chain. They shall be rounded to the nearest foot and shall show horizontal distances. Ground control in rough counties, or that portion of a county classified as rough, should be secured where practicable on all contact prints for which enlargements are to be made. Control measurements shall be made at the beginning and ending of all flight lines and at all breaks within a flight line. These measurements shall be made in keeping with accepted engineering methods for obtaining horizontal distances over rough terrain. One method is by "breaking the tape" and employing a plumb bob; another is by use of the stadia.



At least one measurement on the contact print of approximately one mile or more in length is necessary for enlargement ratio determination. If possible, this measurement should be perpendicular to the line of flight and should be balanced on the contact print in reference to its X and Y axes.

Intermediate stations (a plus along the line of control) should be described in order to show up apparent field errors. These intermediate points will aid in determining the presence and degree of tilt.

As soon as contact prints are selected and properly marked for use in obtaining ground control, they should be forwarded to the county office.

Stereoscopic inspection of contact prints will be found advantageous in selecting the best possible ground control stations of a permanent nature. The stations selected should be indicated by a circle, triangle, or other positive means of identification. Each station should be lettered or numbered. All stations on contact prints should be as readily and easily located as possible.

All measuring in a county will be under the supervision of an engineer from the State office, using personnel from the county. Sufficient personal instructions should be given by the engineer to these crews to insure that control will be secured rapidly and accurately. Travel will be allowed to the chief of each ground control party. A record of the cost of obtaining ground control shall be maintained by the county office. The measured distance, in feet, between the control stations selected shall be written on the front or back of the contact print. Designate with the appropriate number or letter all stations between which measurements have been obtained. Distances and symbols for indicating stations should be written legibly but not permanently on the contact prints, as it may be necessary for the taping party to make some changes in the selected stations. In final form, all the markings on contact prints shall be made in such a manner as to be of a permanent nature. An accurate and brief description of each station should be written on the back of the appropriate contact print. In addition, a complete record of station description should be kept for ground control in each county. This double entry is intended to assist in checking station descriptions.

An accurate record of all contact prints sent to a county office should be maintained.

#### PART IX - USE OF FORM AP-5

It is not necessary to delay the preparation of Form AP-5 because a county has not completed the ground control. A portion of the county may be worked on if the control is available. The ground control entries should be checked on the contact prints before they are brought or sent

to the State office for scale determination. When the contact prints are received in the State office, they will be scaled to the nearest thousandths between the control stations.

Form AP-5 shall be executed in triplicate. The original and first copy shall be forwarded to the North Central Division, Washington, D. C., and one copy shall be retained in the State office.

The first and last sheets of the original, and the copy, of Form AP-5 forwarded to the North Central Division shall be signed by a member of the State committee. His title and the date shall be entered in the appropriate spaces.

Enter in the spaces provided therefor the name of the State, county, designation symbol of the county, sheet number, date of computation, name of the computer, and the name of the person checking the entries on Form AP-5.

Enter in column (1) the roll numbers.

Enter in column (2) the contact print numbers.

Enter on a separate line in column (3) each type of control used, such as U.S.G.S., highway, river survey, or taping. This will permit data resulting from each control to be entered on a separate line in columns (4), (5), (6), (7), (8), (9), and (10).

Enter in column (4) the stations, such as AB, CD, etc., between which the control was applied, as marked on the contact print.

Enter in column (5) the scaled distance in inches between such points.

Enter in column (6) the distance in feet between such points.

Enter in column (7) the contact print scale which is obtained by dividing column (6) (measured distance in feet) by column (5) (scaled distance on the contact print in inches). Topography will also influence this entry.

When two or more controls which are centrally located have been established for one contact print, or are located near the center of the contact print and balanced with respect to the X and Y axes of the print, the mean of such scales shall be determined and entered in column (8).

When more than one control is established on a contact print, the figure in column (8) should be transferred to column (9) and the decimal point moved two places to the left. When only one control is established on a contact print, transfer the figure in column (7) to column (9) and move the decimal point two places to the left. The resulting figure will be that to which 6.6 inches will be enlarged.



At the time enlargement selection is made an "E" shall be placed in column (10) and on the contact prints selected for enlargement.

A blank will be left between flight lines in order to provide space for appropriate entries concerning the "start" and the "end", and the number of the particular flight.

In some instances it will be impossible or undesirable to secure control on the contact print for which an enlargement is to be made. In such cases the contact print scale shall be determined by interpolation. Data required in column (9) shall be obtained by direct application of control data or by interpolation (between datum scales) for every contact print covering the county. In case two intervening uncontrolled enlargements exist between controlled enlargements, their ratios will be established by assigning equitable apportionments of the difference existing between the controlled enlargements.

The space between lines on Form AP-5 is wide enough to permit data relating to three controls to be entered for one contact print serial number. In order to conserve the number of forms used, disregard such spacing when a series of prints has but one control.

#### PART X - USE OF FORM AP-1

Form AP-1, Order for Enlargements, is designed to accommodate entries in columns (1) to (8) and (9) to (16). The first entries should be made on the left-hand side of the page under the column headings and other entries continued to the bottom of the page. The continuation of these entries should be made on the right-hand side of the page under the column headings thereof.

Form AP-1 will be prepared in quadruplicate for all enlargement orders. The original and two copies will be forwarded to the North Central Division, Washington, D. C., and one copy retained in the State office. The first page of the original and the first page of the two copies shall be signed by a member of the State committee. The date preceding the signature and title shall be the date the enlargement order is mailed to the North Central Division, Washington, D. C. One copy containing any necessary corrections or laboratory notations will be returned to the State office. The initials and check marks of persons reviewing an enlargement order will be placed on the pencil copy retained in the State office.

Orders will state the final dimensions of enlargements between collimation marks or brackets, as computed in the State office from the contact prints. Contact print measurements necessary for enlargement dimension calculations will be made from center of bracket line to center

of bracket line (between brackets not displaying the direction arrow) in the case of bracketed prints, and from collimation base to collimation base in the case of collimated prints. Entries on all orders for enlargements and on all tolerance check reports should be made in accordance with the definition for length and width of aerial negatives.

Beginning July 1, 1938, the first enlargement order for a county shall be number one and all orders thereafter shall be numbered consecutively regardless of their classification.

An order for enlargements giving initial or supplementary coverage of a county shall be known as an original order. An order for enlargements necessitated by reason of poor photographic quality or because of tolerance requirements will be classified as a reorder.

The following information shall be entered in the blank spaces on Form AP-1.

- (1) Stamp or type the State and county code numbers in the upper right-hand corner.
- (2) Record the order number, and state whether it is an original or reorder.
- (3) State for what purpose the enlargements are to be used.
- (4) Give the sheet number of the order, such as 1 of 8, 2 of 8, or 3 of 8.
- (5) Enter the name of the State and county, the designation symbol, and the date the order is typed.
- (6) Record the name and address of the contractor.
- (7) State the year flown, the scale, and the agency for which flown.
- (8) Give the size of the master glass negative and strike out the print markings not applicable.
- (9) Enter the average size of 30 controlled contact prints and the flight line direction.
- (10) Factors for width and length will be computed by dividing the average width and the average length of 30 controlled contact prints by 6.6 (where enlargements are to carry a scale of 660 feet to the inch). Width and length factors will be carried to five decimal places.



- (11) After the words "computed by", will be placed the initials of the person(s) that made the measurements on the 30 controlled contact prints and computed the width and length factors and enlargement dimensions.
- (12) After the word "Remarks" shall be placed any pertinent information concerning the order.
- (13) The initials of the person checking an order before submission for signature by a member of the State committee shall be entered in the space provided.
- (14) Do not use the space reserved for the "Aerial Photographic Laboratory Data".
- (15) In column (1) enter each designating symbol found on the contact print. In some instances the markings on the negatives have been changed since delivery of the contact prints. It is desired to have the contact prints bear the same markings as the negatives.
- (16) Enter the roll numbers in numerical order in column (2).
- (17) Enter in numerical order the negative number (contact print number) in column (3). Do not use the columns between (3) and (4), and between (11) and (12). These columns are reserved for laboratory checks.
- (18) Enter in column (4), the value to which 6.6" should be enlarged, as found in column (9) of AP-5.
- (19) Multiply all figures in column (4) or (12), as the case may be, by the width and length factors and enter the results in columns (5) and (6), or (13) and (14), respectively. All enlargement dimensions will be rounded to the nearest hundredth of an inch.

In rounding numbers to two decimal places for enlargement dimensions, fractions amounting to five thousandths (0.005) or less shall be dropped. All fractions in excess of five thousandths (0.005) shall be considered as a hundredth of a unit.

For example:

18.8750000	=	18.87
18.8850000	=	18.88
18.8750001	=	18.88
18.8760000	=	18.88
18.8449268	=	18.84

## PART XI - REORDERING ENLARGEMENTS

When by reason of poor photographic quality or excessive tolerance an enlargement is reordered, prepare a Form AP-1 in the manner outlined for an original order. After the words "Order Number" in the upper left-hand corner of the AP-1, enter the next consecutive number for enlargement orders in a county and type in the word "Reorder".

Form AP-1 shall be prepared in quadruplicate for all reorders. The original and two copies shall be forwarded to the North Central Division, Washington, D. C., and one copy retained in the State office. The first page of the original and the first page of the two copies shall be signed by a member of the State committee. The date preceding the signature and title shall be the date the enlargement order is mailed to the North Central Division, Washington, D. C.

## PART XII - USE OF FORM AP-6

Form AP-6, Shipment of Materials, shall be prepared in quadruplicate for each original order or each reorder for enlargements. The first, second, and third copies of Form AP-6 shall be attached to the order for enlargements. When an order is received in Washington, the first copy of Form AP-6 will be receipted and returned immediately to the State office. On Form AP-6 the words "Agricultural Conservation Association" preceded by the name of the State, shall be entered after the word "Shipper". The name of the city should be entered after "Address". The date on which the order for enlargements, together with Form AP-6, will be placed in the mails should be entered after "Date". It is not necessary to make an entry after "Shipper's No.". Enter after "Consignee", Mr. Claude R. Wickard, Director, North Central Division, Agricultural Adjustment Administration, Washington, D. C.

The number of packages in each case will be one. Under "Description" should be entered "Order for Enlargements for \_\_\_\_\_ County: Symbol \_\_\_\_\_, Order No. \_\_\_\_\_, No. Sheets in Order \_\_\_\_\_". Entries under all "Remarks" should be initialed by a member of the State committee.

When enlargements or contact prints are returned to the North Central Division, Washington, D. C., Form AP-6 shall be executed in quadruplicate. The original and all copies shall have listed thereon the name of the county, designating symbol, and the number of each rejected enlargement or contact print. The date entered on the date line in the upper right-hand corner of Form AP-6 shall be the date of shipment. The original shall be retained in the State office and the first copy shall accompany the material shipped. The second and third copies shall be mailed to the North Central Division, Washington, D. C. One copy will be receipted and returned to the State office. Several AP-6's may be placed in one envelope. No memorandum is necessary since the notations and initials following the word "Remarks" will suffice.



The package containing the shipment of material should be plainly marked "Notice to Carrier - Please keep this package away from moisture, excessive heat and cold".

Form AP-6 shall be used for all shipments of materials to a county office. One copy shall be signed and returned to the State office file.

Entries on the AP-6 for each reordered enlargement shall include notations similar to the following: "At-25-78, tolerance", "At-26-70, photo quality".

#### PART XIII - COUNTY INDEX MAPS SHOWING ENLARGEMENT COVERAGE

The following procedure should be followed in making the orientated county map, hereinafter called the county index map:

1. Select a print of one corner of the county, the greater part of which should fall outside the county.
2. Check the section numbers in the center of the sections for accuracy.
3. Check names of the counties on proper sides of county boundary lines where portions of more than one county are shown.
4. Check names of townships on proper sides of county boundary lines where portions of more than one county are shown.
5. Check names of towns, rivers, lakes, and railroads, etc.
6. Check the tier and range numbers.

Pencil markings may be used until definite orientation has been effected. Data on the contact prints should be complete as such information will be transferred to the enlargements. This data should be neatly and clearly stamped, written, or printed on enlargements in permanent form.

7. After data have been entered on contact prints and checked as described above, enter in each section on the map, the roll number and the number of the contact print which best covers the section. If more than one contact print is needed to cover a section, enter the numbers of all rolls and contact prints to be used. The numbers on the map should clearly indicate which portions of the enlargement are to be used.

8. If it is necessary to make enlargements from two consecutive prints and one or more sections are covered by the two prints, the roll numbers and contact print numbers should be inserted in the section divisions on the map.

9. Should a contact print show portions of a section, (the upper halves of sections 5 and 6 may be on the lower part of contact print 986 and the bottom halves on the upper part of 988), a line should be drawn through the centers of sections 5 and 6 on the county map to show the divisional coverage. Place roll numbers and contact print numbers in each fraction of a section so divided.

10. Continue with the flight line across the entire county.

11. Continue with the bordering flight lines, making certain that sufficient lateral overlap exists.

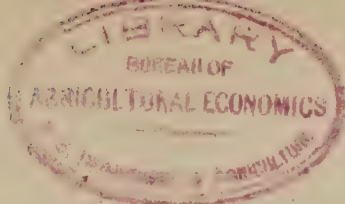
12. Where there is not enough overlap to meet specification requirements, reflights shall be requested.

Three maps showing enlargement coverage shall be prepared. One will be retained in the State office, one will be forwarded to the North Central Division, Washington, D. C., and one to the county office with delivery of the enlargements. The Ozalid process may be employed if legible reproductions are obtainable. If it is necessary to make corrections on an index map, a memorandum setting forth the required changes shall be prepared and copies forwarded to the county office and the North Central Division, Washington, D. C.

The successful use of aerial photography in each State and the solution of the many problems that will arise are dependent upon the initiative and judgment of those associated with this work in the Washington office and the State office, and upon the helpful cooperation of personnel in the county offices.







Issued October 10, 1938.

UNITED STATES DEPARTMENT OF AGRICULTURE  
AGRICULTURAL ADJUSTMENT ADMINISTRATION  
NORTH CENTRAL REGION

PROCEDURE FOR HANDLING WORK IN THE STATE  
OFFICE IN CONNECTION WITH THE 1938 AERIAL  
MAPPING PROGRAM

PART XI of NCR-State 204, the part entitled "Reordering Enlargements", is hereby deleted and the following new Part XI substituted in lieu thereof:

PART XI. CHECKING TOLERANCE AND REORDERING ENLARGEMENTS.

A. Receiving Enlargements and Checking for Tolerance.

Enlargements received in the State office shall be checked in the following manner:

(1) Check enlargements against the form AP-1 retained in the State office and also against Form AP-6 or Form 8, whichever is included with the shipment. Record any shortages or errors on Form AP-6 or Form 8.

(2) Inspect each enlargement for photographic quality. Reject and reorder enlargements on which lack of photographic quality will seriously retard the speed or accuracy of the planimeter operators, or that will require excessive measurements in the field because of lack of detail. In case an enlargement is rejected for lack of photographic quality, enter in red in column 7 or 15, the letters P-Q, and in column 8 or 16, the letter R. It will not be necessary to make tolerance checks on such enlargements.

(3) Check for tolerance, and reject and reorder enlargements that do not meet the specified tolerance.

The check for tolerance should be made within 48 hours after the enlargements are received in the State office. Then, as soon as possible, the necessary information shall be entered on all enlargements accepted, and they shall be forwarded to the county office.

To check the enlargements for tolerance, scale the width and length dimensions of each enlargement and enter such scalings above the entries appearing in columns 5 and 6, or in columns 13 and 14, on the copy of Form AP-1 retained in the State office. The columns referred to appear on Form AP-1, Revised.

Only collimating marks shall be used for scaling when both collimating marks and brackets appear on an enlargement

When enlargements display only the corner bracket marks, scalings shall be made for both sets of width and for both sets of length bracket marks; the average of the two width scalings shall be entered on Form AP-1 above the figures appearing in column 5 or 13, and the average of the two

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length scalings shall be entered above the figures appearing in column 6 or 14.

When an enlargement displays etched marks 6.6 inches apart, scalings shall be made for the sets of width marks, averages taken, and scalings made for the length marks. The average of the width scalings shall be entered on Form AP-1 above the figures appearing in column 5 or 13, and the length scalings shall be entered above the figures appearing in column 6 or 14.

After the width and length scalings have been entered on Form AP-1, subtractions shall be made to determine width and length tolerance. Tolerances resulting from scalings which are greater than the dimensions ordered shall be preceded by a plus sign (+) and tolerances which are less than the dimensions ordered shall be preceded by a minus sign (-). Tolerance figures shall then be multiplied by 100 and entered in columns 7 and 8, or in columns 15 and 16. For example, the tolerance figures  $+12$ ,  $-.07$ , and  $+ .04$  would be entered as  $+ 12$ ,  $-7$ , and  $+ 4$ , respectively. In cases where the scaled dimensions are the same as the ordered dimensions, a zero (0) shall be entered.

To determine whether the enlargement meets the tolerance requirements the width and length dimensions ordered shall be considered in the following manner:

Drop any figures to the right of the decimal in the width and length figures ordered, provided such figures are .50 or less. Round to the next inch provided the figures to the right of the decimal are .51 or more. For example, if the width and length ordered are 22.51 inches and 17.50 inches, such width and length figures shall be rounded to 23.00 inches and 17.00 inches, respectively. An enlargement shall be considered in tolerance if the algebraic sum of the width and length tolerances is equal to, or less than, 1 percent of the average of the rounded width and length dimensions ordered. For example, let us assume that the width and length dimensions ordered for an enlargement are 21.99 inches and 17.01 inches, and that the scaled width and length dimensions for the enlargement are 21.85 inches and 17.05 inches, respectively. In this case, the width and length tolerances would be  $-.14$  of an inch and  $+ .04$  of an inch, respectively, and the algebraic sum of the tolerances would be  $-.10$  of an inch. The width and length dimensions ordered would be rounded to 22.00 inches and 17.00 inches, respectively, and the average of such figures would be 19.50 inches. Now, one percent of 19.50 equals .195; therefore, the enlargement considered in the above example would be within the tolerance requirements, since the algebraic sum of the width and length tolerances ( $-.10$  of an inch) does not exceed 1 percent of the average of the rounded width and length dimensions ordered (.19 of an inch). It should be noted that when 1 percent of the average of the rounded dimensions ordered results in three figures to the right of the decimal, the third figure shall be dropped.

If the scalings for an enlargement entered in columns 7 and 8 or 15 and 16 show that the allowable tolerance has been exceeded, place a red R immediately following the entry in columns 8 and 16.

### B. Tolerance Check Reports.

Temperature and relative humidity readings should be taken each day, at 8.00 a.m., 12.00 noon, and 5.00 p.m., in the room in which the enlargements are stored. A record of each day's readings should be on file in the Performance and Aerial Mapping Section of the State office.

Tolerance check reports shall be prepared using the carbon copies of the orders for enlargements returned from the North Central Division. Such reports should be prepared as soon as possible but without interruption to the urgent work in the Performance and Aerial Mapping Section and forwarded to the North Central Division.

Enter in red ink immediately above the entries in column 1 to 8, inclusive, the date, the hour, and the temperature and relative humidity readings as determined at the time scaling was begun. At the end of the tolerance check report similar entries shall be made for the time scaling was completed. In the event it is impossible to complete scaling enlargements for a county by the close of the working day, the date, the hour and temperature and relative humidity readings as determined at the time scaling was interrupted should be entered below the last enlargement scaled. Similar entries shall be made at the time scaling is resumed.

In columns 7 and 8 or in columns 15 and 16 enter the tolerance values. Such entries shall be preceded by a plus or minus sign.

Immediately below the date line on the first page of the report, enter the date of mailing and a member of the State committee shall initial the report immediately below the line for signature.

### C. Monthly Tolerance Check Reports.

To determine the extent of dimensional changes occurring in enlargements as a result of aging, select ten or more rejected enlargements prepared on Haloid Linen Ledger paper, and fifteen or more enlargements prepared on P.M.C. paper. Such selections need not be from rejected enlargements for the same counties, but should include enlargements representative of the general type received from the Aerial Photographic Laboratory. Checks for tolerance should be made once each month on the selected enlargements and the results entered on Form AP-1. Temperature and relative humidity readings and the date and hour of the day the scaling was performed shall be entered on such forms. Each report shall list the name of the State, designating symbols, roll and negative numbers, widths and lengths ordered, all scaled dimensions, resulting tolerances, the type of paper on which the enlargement was projected; and shall be headed "Monthly Tolerance Check Report". The monthly tolerance check report shall be prepared in triplicate and the original and first copy forwarded to the North Central Division. The second copy shall be retained in the State office.



D. Dimensional Change-Humidity Reports.

One or more rejected enlargements made on each type of paper shall be selected, and scalings shall be made over as wide a range as possible of relative humidity, naturally obtained. Four to six readings will be sufficient to determine the dimensional change-humidity curve provided such readings embrace a wide range of humidity and intermediate points. Readings to determine this curve shall be made at 5.00 p.m., at approximate intervals of one month. Enlargements used for this purpose shall be freely exposed to the atmosphere for a period of at least 12 hours before scalings are made.

The dimensional change-humidity report shall be prepared in graphic form, or on Form AP-1. It shall include symbols; roll numbers; negative numbers; widths and lengths ordered; tolerances; and relative humidity readings, for the three times of the day at which scalings are made; date of each scaling; and the type of paper on which the enlargement was projected. The report shall be headed "Dimensional Change-Humidity Report".

E. Reordering Enlargements.

When an enlargement is reordered because of poor photographic quality or excessive tolerance, the following information shall be entered on Form AP-1:

After the words "Order No." in the upper left-hand corner of Form AP-1, enter the next consecutive number for the enlargement orders of a county, and above such number enter the word "Reorder". All other data, excepting those for "Sheet No.", "Date" and "Remarks", shall be the same as those appearing above the columns on the original order.

Enter in columns 1 to 6, inclusive, the symbols; roll numbers; negative numbers; the dimension to which 6.6 inches should be enlarged; and the width and length dimensions of each enlargement reordered.

If an enlargement is reordered because of excessive tolerance enter on the proper line in columns 13 and 14 the scaled dimensions of the enlargement. Enter on the proper lines in columns 15 and 16 the tolerance values for the enlargements with the proper plus or minus signs preceding them.

If an enlargement is reordered because of photographic quality, enter on the appropriate line in columns 9 to 16, inclusive, the reason for rejection.

Form AP-1 shall be prepared in quadruplicate for all reorders. The original and two copies shall be forwarded to the North Central Division, Washington, D. C., and one copy retained in the State office. The first page of the original and the first page of the two copies shall be signed by a member of the State committee. The date preceding the signature and

title shall be the date the enlargement order is mailed to the North Central Division, Washington, D. C.

F. Returning Rejected Enlargements.

All rejected enlargements, as well as those not ordered but received with the shipment, shall be returned to the North Central Division immediately, unless used for monthly and dimensional humidity-change reports, or unless used temporarily as a substitute for the reordered enlargements. Symbol roll and negative numbers of all enlargements returned shall be listed on the form AP-6 accompanying such shipment.



